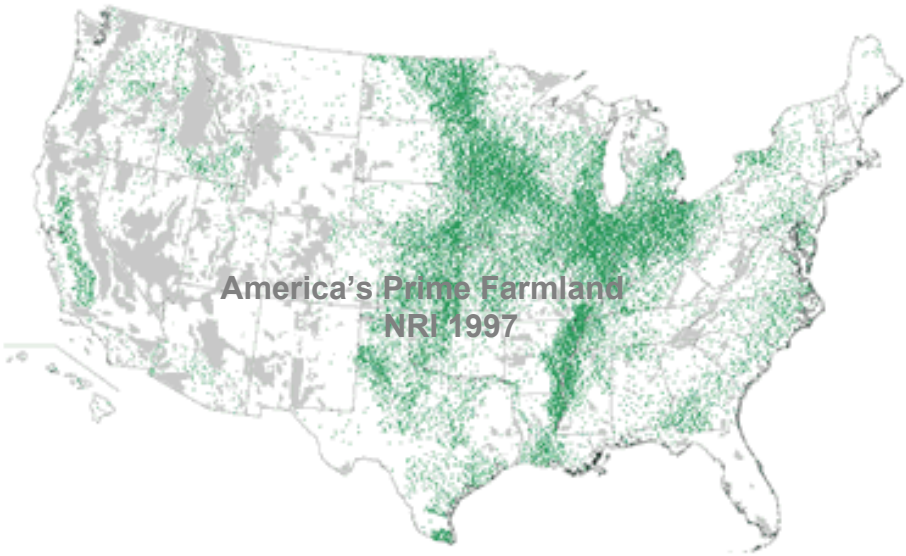
United States Department of Agriculture

NRCS Natural Resources Conservation Service

Farm and Ranch Lands Protection Program

Final Environmental Assessment



May 2003

Table of Contents

INTRODUCTION

This Final Environmental Assessment (EA) documents the analysis of the environmental and socioeconomic effects of a proposed action and alternatives to that action. The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether the effects of the proposed action are likely to significantly affect the quality of the human environment. If any significant effects are discovered, a detailed analysis in the form of an Environmental Impact Statement will be prepared. Upon completion of the EA, the Natural Resources Conservation Service (NRCS) will publish in the Federal Register either a Notice of Intent to Prepare an Environmental Impact Statement (NOI) or a Notice of Availability of a Finding of No Significant Impact (FONSI).

The analysis contained in this EA complies with the requirements of the National Environmental Policy Act of 1969 (NEPA) and the Council of Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Parts 1500-1508). A draft Farmland Protection Program (FPP) EA was prepared and distributed for review and comment. The name of the program subsequently was changed to the Farm and Ranch Lands Protection Program (FRPP) to more accurately reflect the scope and intent of the program.

PROPOSED ACTION

The NRCS is proposing to publish a rule for carrying out the FRPP authorized by the Farm Security and Rural Investment Act of 2002 (P.L. 107-171). A copy of the FRPP legislation is located in Appendix A.

The Farm Security and Rural Investment Act of 2002 repealed the Farmland Protection Program (FPP) established by the Federal Agriculture Improvement and Reform Act of 1996, and authorized a new farmland protection program. NRCS has carried out both authorities by publishing Requests for Proposals (RFP's) in the Federal Register (FR) as Congress has made funds available. These RFP's request federally recognized Indian tribes and governmental and non-governmental organizations to cooperate in the acquisition of conservation easements or other interests in prime, unique, or other productive land for the purpose of limiting conversion to nonagricultural uses. (See, for example, 66 FR 6566-6570 (January 22, 2001) and 68 FR 16253-16258 (April 3, 2003).)

The FRPP is a voluntary program that helps farmers and ranchers keep their land in agriculture and prevents conversion of agricultural land to nonagricultural uses. The program provides matching funds to State, Tribal, and local governments and to non-governmental organizations with existing farmland protection programs to purchase conservation easements. These entities obtain easements from landowners in exchange for a lump sum payment, not to exceed the appraised fair market value of the development rights. The easements are perpetual.

There are approximately 328 million acres of prime farmland within the United States. Since program inception in 1996, conservation easements have been obtained in 35 States at a federal cost of approximately $101 million. Approximately 170,249 acres on 890 farms, with an estimated cumulative easement value of nearly $349.53 million, have or will have easement contracts in the near future. (See Figure 1 for distribution of acreage enrolled in the program). For every Federal dollar invested through FRPP[1], an additional $3.45 has been contributed by participating State and local governmental entities and non-governmental organizations. At this time, approximately 88,210 acres of mostly prime, unique and important farmland on the urban fringe are enrolled in FRPP[2] and are permanently protected from conversion to nonagricultural uses.

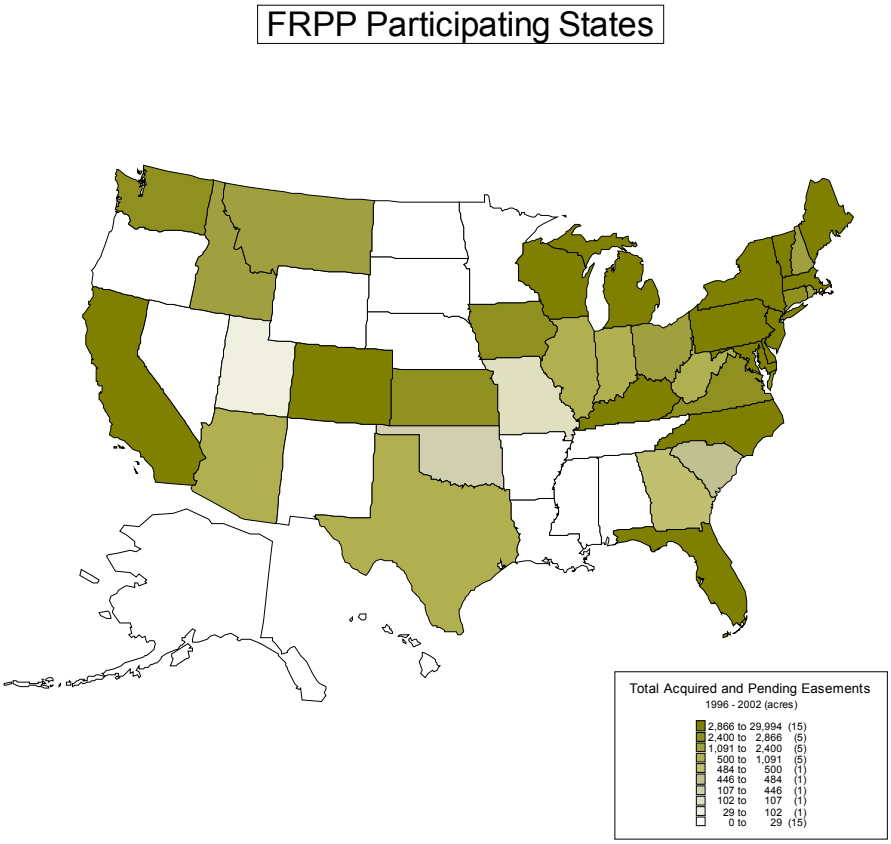


Figure 1. Distribution of FRPP Funds

THE PURPOSE AND NEED FOR ACTION

The purpose of the proposed action is to enable NRCS to provide Federal assistance to reduce the conversion of productive farm and ranch land to nonagricultural uses.

[1] Includes funds expended under FPP.
[2] Includes funds expended under FPP.

Eligible lands include land on a farm or ranch that has prime, unique or other productive soils; or land that contains historical or archeological resources and is subject to a pending offer. These lands must also currently be used as cropland, rangeland, grassland, pastureland, and forestland that is an incidental part of an agricultural operation.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland also includes land that possesses the above characteristics but is used to produce livestock or timber. It does not include land already in or committed to urban development or water storage.

Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables.

Other productive soils include farmland that is other than prime or unique farmland that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops. The appropriate State or unit of local government makes this determination, along with the concurrence of the Secretary.

For lands containing historical or archeological resources to be eligible for enrollment in the program, the historical and archaeological resources must be:

- Listed in the National Register of Historic Places (established under the National Historic Preservation Act (NHPA), 16 U.S.C. Section 470, et seq.), or
- Formally determined eligible for listing in the National Register of Historic Places (by the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and the Keeper of the National Register in accordance with Section 106 of the NHPA), or
- Formally listed in the State or Tribal Register of Historic Places of the SHPO (designated under Section 101 (b)(1)(B) of the NHPA) or the THPO (designated under Section 101(d)(1)(C) of the NHPA).

The need to which NRCS is responding in the proposed action is the need to purchase conservation easements or other interests as authorized by Congress in order to:

1. Help protect the Nation's topsoil and provide the food and fiber necessary for the continued welfare of the people of the United States;
2. Slow the irrevocable conversion of the Nation's farmland from actual or potential agricultural use to nonagricultural use;
3. Maintain the ability of the United States to produce food and fiber in sufficient quantities to meet domestic needs and the demands of our export markets;

4. Curb the loss of open space;
5. Sustain rural economic stability and development;
6. Maintain, restore, and enhance ecosystems;
7. Protect historic landscapes and scenic beauty.

A significant and critical part of the U.S. agricultural system faces an uncertain future resulting from land use changes in the urban fringe (rural agricultural land experiencing pressure from suburban development). Urbanization is rapidly moving beyond the suburbs. As a result, competition has developed for uses of agricultural land. Land allocated to farming provides a flow of both market and non-market benefits to society (e.g., crop production and open space). Developers acquiring agricultural lands for home and commercial construction, on the other hand, seek these same lands.

According to a Purdue University study, "[e]stimates of the agricultural land converted annually to non-agricultural uses vary between 800,000 acres to more than 3 million nationwide. More important than the exact rate of conversion is the location of rapidly changing land use. Much of the land being lost is prime or unique farmland, and is disproportionately located near cities." According to NRCS National Resource Inventory (NRI) data, over the past 10 years an average of 1.3 million acres of prime farmland has been lost each year. (See Figure 2.) American Farmland Trust (AFT) figures estimate that 58 percent of the total U.S. agricultural production comes from counties that the Census Bureau classifies as metropolitan and their adjoining counties. (Carver and Yahner, 1996.) Where the Nation's strategic farmland is receiving pressure from urban development is where FRPP has the opportunity to provide the greatest benefits. The AFT has identified these areas as shown in Figure 3.

Figure 2
Trend- Prime Farmland

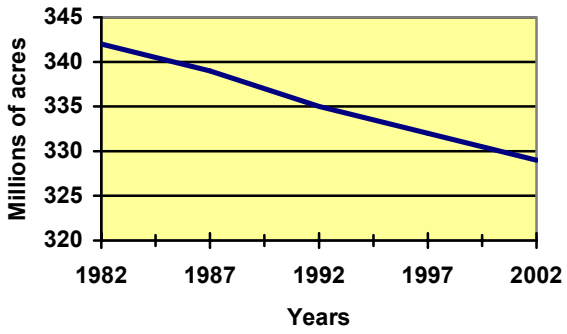
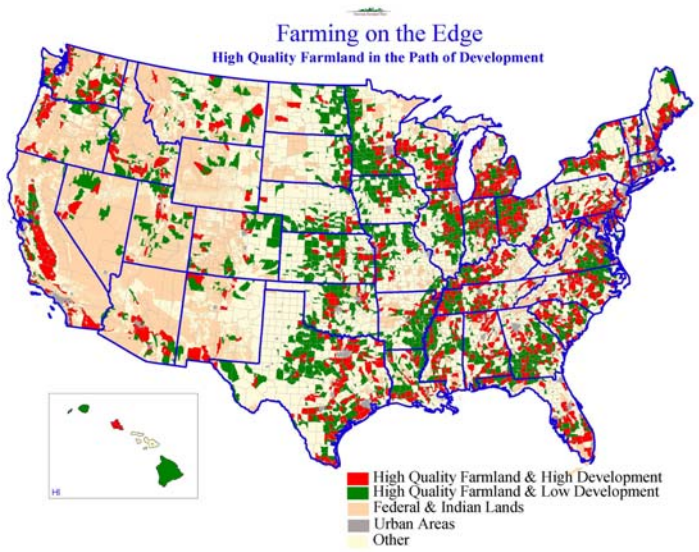


Figure 3. The Geographic Relationship between High Quality Farmland and Development Pressure.
(http://www.farmland.org/farmingontheedge/downloads.htm.)

Note: High-quality farmland areas have relatively large amounts of prime or unique farmland. **High-development areas** have relatively rapid loss of high-quality farmland to development. **Other areas** do not meet the two threshold tests. The relative measures compare sub-county areas against their respective statewide averages. This map should be used to identify broad trends, not to make highly localized interpretations.



ALTERNATIVES

Alternative 1, Proposed Action – Implement the FRPP. This alternative would provide matching funds (up to 50% of the appraised fair market value) to State, Tribal, or local governments and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. The purpose of these easements is to limit conversion of farm and ranch land to nonagricultural uses by essentially purchasing the value of development rights. Landowners will retain all rights to the use of the property for agriculture.

In accordance with the Food Security Act of 1985, as amended and the authorizing FRPP legislation, a conservation plan under the FRPP will cover only highly erodible cropland. Conservation planning on other lands or on other resources is at the discretion of the NRCS State Conservationist and the cooperating entity. Table 1 provides a listing of the conservation practices used in the current easements. Each conservation plan will utilize different combinations of practices depending on the requirements of the state and the needs of the treatment unit. NRCS anticipates that future easements will utilize similar conservation practices.

Table 1. Conservation Practices

PRACTICE NAME	*CODE*[3]
Conservation Crop Rotation	328
Contour Buffer Strips	332
Cover Crop	340
Filter Strip	393
Fence	382
Forest Stand Improvement	666
Grassed Waterway	412
Irrigation Water Management	449
Nutrient Management	590
Pest Management	595
Pipeline	516
Range Planting	550
Residue Management, Mulch Till	329B
Residue Management, No Till/Strip Till	329A
Residue Management, Ridge Till	329C
Residue Management, Seasonal	344
Riparian Forest Buffers	391
Roof Runoff Structure (Barnyard)	570
Upland Wildlife Habitat Management	645
Wetland Wildlife Habitat Management	644
Windbreak/Shelterbelt Establishment	380
Waste Storage Facility	359

[3] Practice numbers are assigned by NRCS for ease of reference and are found in the NRCS National Handbook of Conservation Practices.

Alternative 2, “No Action”

Under the “No Action” alternative, the NRCS would not implement the FRPP. States, Tribes, and other organizations would likely continue to purchase easements and utilize other instruments to protect productive agricultural land without a federal contribution. Often, they would not require a conservation plan that meets NRCS standards. This is the most likely future condition without the proposed action and forms the benchmark for comparing the effects of the proposed action.

IMPACTS

Alternative 1, “Proposed Action” – Implement the FRPP

The FRPP authorizes NRCS to purchase easements and other interests in eligible land. Federal funds for purchase of perpetual easements on prime and unique farmland or land that contains historical or archaeological resources are authorized in the total amount of $597 million from 2002 through 2007. Because matching funds must be raised to receive Federal assistance, the average federal cost per acre of land protected by the FRPP has been a little less than $500 per acre. At proposed funding levels, NRCS estimates that about 1.2 million acres can be protected through fiscal year 2007.

Publication of the rule does not directly result in an impact to the quality of the human environment, but enrollment of land in the FRPP does result in a restriction on future development, as well as application of a conservation plan to the land under easement. It may also result in protection of some historic resources that might otherwise be destroyed. Thus, national implementation of the FRPP causes direct and indirect effects to the environment.

NRCS developed network diagrams depicting the chain of natural resource effects resulting from the application of the conservation practices listed in Table 1, should the property be taken under easement. These diagrams, as well as a photo and a summary description about how each of these practices is intended to be used and the general effects of using the practice is found in Appendix B.

Each of the diagrams first identifies the typical setting to which the practice is applied. This includes identification of the predominating land use and the resource concerns that trigger use of the practice. The diagrams then identify the practice used to address the resource concerns. Following the practice, there is a description of the immediate physical actions that occur to implement the practice. From there, the diagrams depict the occurrence of the direct, indirect and cumulative effects of the practice. Effects are qualified with a "+" or a "-" which denotes an increase ("+") or decrease ("-") in the effect. Pluses and minuses do not equate to beneficial and adverse or positive and negative impacts. Only the general effects that are considered to be the most important ones from a national perspective are illustrated.

The effects of the practices will vary depending on the local ecosystem(s), methods of

practice installation, and presence of special resources of concern in a particular state, such as the existence of a coastal zone management plan, endangered or threatened species, historic and cultural resources, and the like. While effects on these resources may be described in general terms at the national level, they must be addressed at the state and local level. This is particularly true for endangered and threatened species, historic preservation, historic and cultural resources, essential fish habitat and other resources that are protected by special authorities that require consultation. NRCS will consult on a state or site-specific level as needed and appropriate, to ensure FRPP actions do not adversely affect endangered or threatened species, essential fish habitat, cultural resources, or any other protected resources, and will implement practices in a manner that is consistent with NRCS policy to avoid, mitigate or minimize adverse effects to the extent feasible.

For example, to ensure compliance with the Endangered Species Act, State Conservationists will invite representatives of the U.S. Fish and Wildlife Service (FWS) and NOAA Fisheries (previously known as the National Marine Fisheries Service or NMFS), as applicable, to all State Technical Committee meetings and involve them in the development of program criteria within the State. NRCS will also conduct additional programmatic consultations with FWS and NOAA Fisheries at the State level as needed to ensure FRPP implementation is not likely to adversely affect species listed as endangered or threatened or species proposed for listing as endangered or threatened or designated critical habitat. Such consultation will also be used to identify ways the FRPP might further the conservation of protected species and identify situations in which no site-specific consultation would be needed.[4] Site-specific consultation will also be conducted as needed to avoid adversely affecting any protected species or habitat.

To ensure compliance with the National Historic Preservation Act and associated authorities, NRCS State Offices will follow the procedures outlined in the Advisory Council on Historic Preservation's (ACHP) regulations (36 CFR Part 800) or, in accordance with NRCS' alternate procedures (nationwide Programmatic Agreement), invite State Historic Preservation Officers (SHPO's) and federally recognized Tribes (or their designated Tribal Historic Preservation Officers) to enter into consultation agreements that highlight and focus review and consultation on those resources and locations that are of special concern to these parties. In addition, if no state-level agreements are developed with the SHPO's or Tribes, and/or if other consulting parties are identified, they will be afforded, as appropriate, an opportunity to advise the NRCS State Office during project-specific planning about their historic and cultural resource concerns so that they may be taken into account in accordance with the ACHP regulations.

[4] In addition to situations in which NRCS determined there would be no effect on protected species or habitat, site-specific consultation should not be needed when NRCS and FWS or NOAA Fisheries agree a category of proposed actions is not likely to adversely affect a protected species or habitat and NRCS obtains an incidental take statement based on that agreement.

In general, farmland protection easements and management of those easements in a sustainable fashion has the effect of protecting wildlife habitat, prime agricultural soils, and ecosystem health.

For example, farm and ranch lands have more permeable surfaces than developed areas. These permeable surfaces allow more water to infiltrate into the soil rather than flow across on the surface. Areas such as parking lots yield up to 16 times more surface flow. (In Hirschhorn, as cited in *Maintaining Farm and Forest Lands in Rapidly Growing Areas*, p.10.) Lands maintained in vegetation help to maintain stream integrity and riparian ecosystems by regulating base flows and peak discharges that directly affect water quality and indirectly reduce costs for manmade systems that artificially manage the watershed. By limiting the area and amount of land surface flows in a watershed, the pollution of streams and waterways are reduced by reducing the transport of sediments, bacteria, nutrients, and metals. The more water that is retained on the land and allowed to absorb in to the soil, the greater the capacity for recharging underground aquifers. The more water that flows across the surface of the land, the greater the risk for flooding and soil erosion.

Maintaining lands in agricultural production will protect biodiversity by providing habitat for fish and wildlife including endangered and threatened species. Maintaining ecosystem continuity by reducing habitat fragmentation contributes to species diversity and vigor by maintaining habitat for intermixing and for escape from catastrophic events such as wildfire. The fragmentation and loss of existing habitat are among the leading causes of species extinction. For example, in parts of southern California, urban sprawl has gone unchecked and has contributed to the listing of 60 endangered or threatened species. (*Maintaining Farm and Forest Lands in Rapidly Growing Areas,* p. 10.) The FRPP will also ensure that all wetlands on lands enrolled in the program are protected by limiting the potential for development. Wetlands act to filter floodwaters and recharge ground water supplies, as well as provide fish and wildlife habitat.

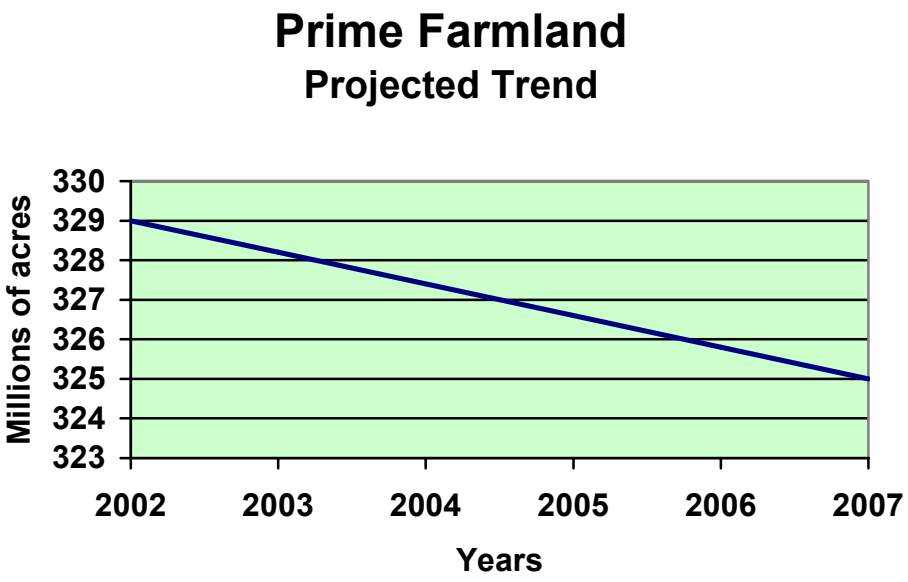
Cumulative effects of the program result in a general increase in the quality of natural resources as shown in the practice diagrams in Appendix B. The quality of surface waters will improve due to decreased loading and reduced run-off, especially for waters designated for fishing and swimming uses. Habitat quality and quantity are improved as lands are protected from fragmentation and permanent alteration. Most all of the practices that will be implemented are designed to manipulate ground cover in some fashion resulting in improvements to air quality either by the reducing greenhouse gas emissions, or reduction of particulate mater. Income and income stability are generally improved as practices are designed to provide long-term sustainability and reduction of maintenance costs.

Alternative 2, “No Action”

Approximately 58 percent of America’s county governments are seriously concerned over loss of farmland due to expected growth in the coming years. (*Maintaining Farm and Forest Lands on Rapidly Growing Areas*, p. 4.) If current trends continue at the

present rate, approximately 4 million acres of prime farmland will be lost to nonagricultural uses between 2002 and 2007. (See Figure 4.)

Figure 4.



Highly productive farmland is often converted to residential, commercial or recreational use because the characteristics of quality farmland, such as flat or well-drained soils, are often the same characteristics of land sought for development. When this occurs, open space and related benefits provided by agricultural land are then lost indefinitely, and often permanently. The likelihood of conversion back to agricultural use is at best highly improbable and is usually economically infeasible. Thus, if no action is taken to implement the FRPP, it is likely that the 1.3 million acres of farmland that the program would otherwise protect would be subject to converted instead to development or another non-farm use. It is also likely that historic resources present on FRPP eligible lands would be destroyed, resulting in a loss of irreplaceable ties to, and knowledge about, our national, state and local heritage.

The locations of prime farmland that have been converted to developed land, according to the most recent NRI data, are shown in Figure 5.

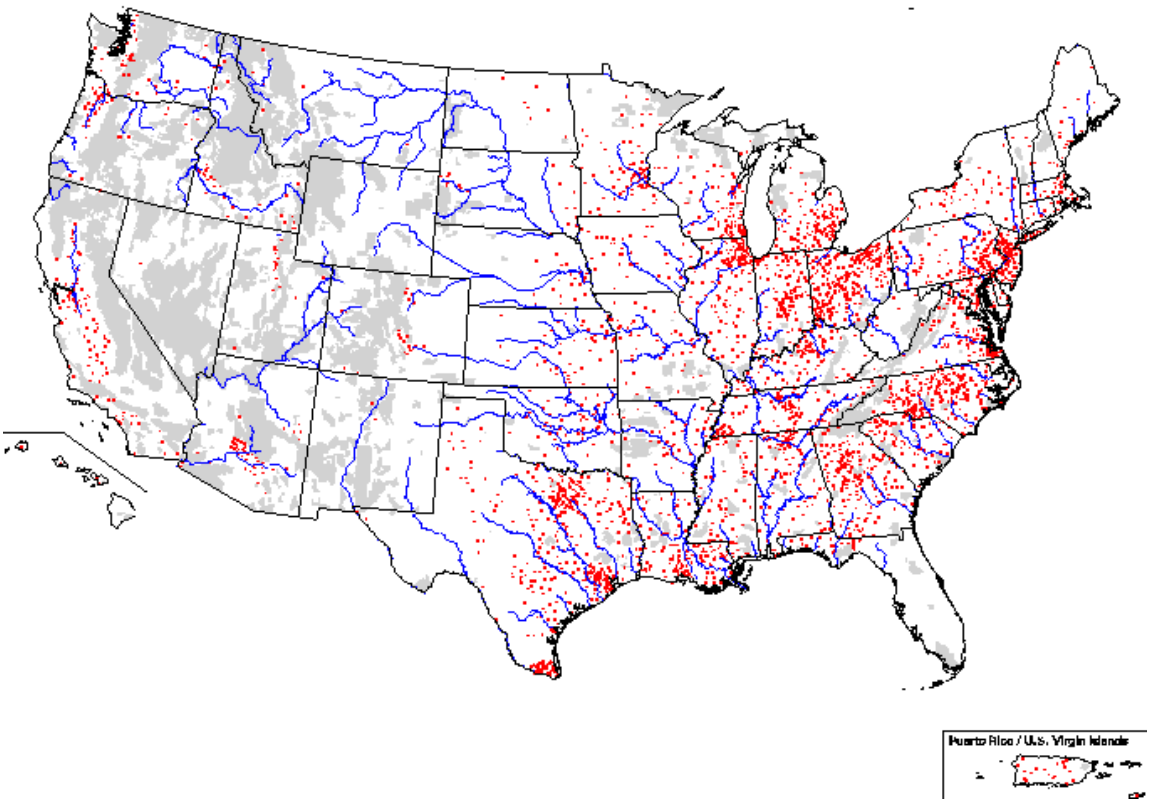


Figure 5.
Acres of Prime Farmland Converted to Developed Land, 1982 – 1997
(Each red dot represents 2,000 acres of newly developed land)

A total of 7,347,000 acres of prime farmland were developed between 1982 and 1997. According to USDA's National Resources Inventory (NRI), urban and built-up areas increased from 65.3 million acres in 1992 to 79 million acres in 1997. The location of these acres correlates closely to those areas identified in Figure 3 as having high vulnerability for conversion because they are located near urban centers. In those areas where conversion occurs, farming operations may become less economically viable due to nuisance conflicts and fewer acres being available for leasing. The loss of farming operations will have visual impacts and will contribute to a loss of the rural lifestyle and culture, as well as the ecological impacts described previously in this report.

When development occurs on prime and important farmland, it indirectly reduces the productive potential of surrounding agricultural land by limiting its current or future use. In fact, impacts on the converted tract itself may be small in comparison to the current and future consequences impacting adjacent farmland. As an example, restrictions may be imposed on farming activities out of concern for the health, safety, and welfare of the growing non-farming population. The applications of pesticides or manure near residential areas are two such activities for which society may demand new regulation. Imposition of such regulations can make it more expensive to farm and reduce the viability of the farming operation.

Odor, noise, and dust are normal byproducts of some types of agricultural production. When residential development occurs in agricultural areas, these effects can be perceived as nuisances by people who move into these developments. Conflicts sometimes arise as a result.

Even when an area's proportion of agricultural land remains high, it can be fragmented into smaller scattered parcels, and consequently farmers may be prevented from employing newer technologies that require more land to achieve full economies of scale. Such restrictions reduce efficiency and increase production costs, perhaps even leading to premature idling of land.

The loss of open space associated with agriculture can affect cultural and recreational activities of a community. For example, a place known for hunting or fishing may be rendered useless because of increased human activity, habitat modifications, and increased regulation of hunting and fishing activities due to safety concerns. The value of the land for wildlife observation may also decline. The quality of scenic or historical landmarks is degraded when encroachment alters the view shed or aesthetic qualities of a site.

Development can also disturb, modify or convert the structure and function of existing habitats. Insecticides and fertilizers used on lawns are sometimes applied at significantly greater rates than on agricultural land resulting in nutrient over-enrichment or contamination of nearby water bodies and associated aquatic habitats. Well-planned developments sometimes preserve an area of protected green space or parkland. This creates mini-ecosystems where some native species can flourish. However, most native species experience unfavorable changes in habitat quality and quantity along with an increase in competition from exotic species and predation from domestic animals such as house cats.

Fragmentation of habitat is one of the primary factors threatening the preservation of biodiversity. The effects of fragmentation on biodiversity include:

- A reduction in total habitat area. Habitats that have been broken up into smaller units generally support fewer native species and smaller populations of the same species than larger units;

- The loss of species requiring large habitats or having specific habitat requirements that can no longer be met, such as interior habitat dwellers;

- An increase in exotic species at the expense of native and interior species as changes in microclimate occur along power line corridors, roads and areas of urban development.

Wildlife populations are affected by road construction that often accompanies the conversion of agricultural land. Roadways create barriers to the movement of many

species and pose a potential threat to both animals and humans. Barriers disrupt migration routes, isolate populations from a larger gene pool, and fragment habitat. Many animal species are attracted to roadways by thermal radiation and the succulent vegetation often found in the borrow ditches, leading to increased incidences of animal mortality from motor vehicles.

Conversion of agricultural uses involves more than the urban and suburban impacts of increased traffic stresses on existing utilities, and infrastructure. It alters the structure and function of the natural environment, and other factors important to quality of life. For example, increased areas of rooftops, pavement, and other impervious surfaces affect the hydrology of the watershed by increasing the volume and the velocities of surface flows of precipitation. This can lead to increases in the frequency and duration of flooding events. There is also less opportunity for natural water filtration and ground water recharge.

As rural agricultural land is converted to more intensive human uses, the quality of surface waters is affected. Because conservation measures are normally used to reduce erosion on highly erodible cropland, short-term sediment production normally increases when the cropland is converted to urban uses. Erosion from construction sites increases siltation of adjacent water bodies. This increased siltation causes increased turbidity and temperature. Generally over the long-term, sedimentation will decrease with the maturation of the urban use. As the intensity of the use increases, more pollutants are generated. As impervious surface area increases, there is a corresponding increase in storm runoff and associated pollutants, such as heavy metals, salts and oils.

Development can also result in wetland loss. According to reports issued by the Maine State Planning Office in 1985, 85 percent of Maine's wetlands were visible from or within 2,000 feet of a road, thereby limiting their habitat value. NRI data shows that nationally, 89,000 acres of wetlands were lost to urban uses each year from 1982 to 1992, resulting in a 57 percent of total gross wetland loss.

Thus, if no action were taken to implement the FRPP as proposed, productive crop and ranch land will continue to be lost. Land will continue to be converted to urban and suburban development. The cumulative impacts of this conversion will cause dramatic changes to natural ecosystems and social structures. Farmers and ranchers have long been some of the best stewards of the environment since their livelihood is to a large degree dependent on the condition of their natural resources. Without the FRPP, opportunities for these stewards to continue protecting the nation's natural resources will be lost.

LIST OF PERSONS AND AGENCIES CONSULTED

Natural Resources Conservation Service:

*Matthew Judy, Environmental Specialist, National Water Management Center (NWMC), NRCS, Little Rock, AR
*Andrée DuVarney, National Environmental Coordinator, NRCS, Washington, DC
*Cheryl Simmons, Soil Conservationist, NRCS, Washington, DC
*Denise Coleman, Resource Conservationist, NRCS, Washington, DC
*Kari Cohen, Resource Conservationist, NRCS, Washington, DC
David Heffington, Ecologist, NWMC, NRCS, Little Rock, AR
Richard Devergilio, State Resource Conservationist, NRCS, MA
Gary Finstad, Soil Conservationist, NRCS, CO
Leroy Hall, Management Analyst, NRCS, Washington, DC
Jeff Kenyon, Sociologist, NRCS, SSI, AR
Suzanne Kenyon, Cultural Resources Specialist, NRCS, NWMC, AR
James Kocsis, Assistant State Conservationist, NRCS, CA
Cameron Loerch, MLRA Office Leader/State Soil Scientist, NRCS, CO
Ken Murray, Program Development Coordinator, NRCS, FL
Ron Shavlik, Assistant State Conservationist, NRCS, WA
David Smart, State Resource Conservationist, NJ

* Indicates those who worked directly in preparing this EA.

Network Diagramming and Practice Effects Assistance

Carolyn Adams, Director, Watershed Science Institute, NRCS, Raleigh, North Carolina

*Barry H. Rosen, Ph.D., WSSI-Raleigh, NC
*Betty McQuaid, Ph.D., WSSI-Raleigh , NC
*Steffanie Aschmann, Agroecologist, WSSI-Lincoln, NE
*Lyn Townsend, Forest Ecologist, WSSI-Portland, OR
Barry L. Kintzer, P.E., National Environmental Engineer, NRCS, Washington, D.C.
Carl Hutcherson, Acting Regional Technology Specialist, South Central Region, Fort Worth, TX
Jerry Lemunyon, Conservation Agronomist, Resource Assessment Division, Ft. Worth, TX
David C. Moffit, Environmental Engineer, NWMC-Ft. Worth, TX
Kathryn Staley, Fish Biologist, WHMI-Corvallis, OR
Ron Harris, Natural Resource Specialist, AHCWPD, Beltsville, MD
Ken Pfeiffer, Pest Management Specialist, NWCC-Portland, OR
Joe Bagdon, Pest Management Specialist, NWCC-Amherst, MA
David Anderson, Agricultural Engineer, WSSI-Lincoln, NE
Dennis Carman, Agricultural Engineer, NWMC, Little Rock, AR

Doug Seibel, Engineer, Quality Assurance Staff, NRCS, Washington, D.C.
Charlie Rewa, Wildlife Biologist, WHMI-Patuxent, MD
Bill Kuenstler, Agronomist, National Cartography and Geospatial Center, Ft. Worth, TX
Arnold King, National Technical Coordinator, Cooperating Scientist, Ft. Worth, TX
Ron Harris, Natural Resource Specialist, AHCWPD, Beltsville, MD
Kerry Robinson, Hydraulic Engineer, WSSI-Raleigh, NC
Jim Cropper, Ph.D., Forage Management Specialist, GLTI, University Park, PA
Arnold Norman, Ecosystem Management Specialist, GLTI, Ft. Worth, TX
George Peacock, Range Management Specialist, GLTI, Ft. Worth, TX
Ken Spaeth, Ph.D., Range Hydrology Specialist, GLTI, Boise, ID
Bruce Wight, Lead Agroforester, Cooperating Scientist, National Agroforestry Center, Lincoln, NE
James L. Robinson, Agroforester, Cooperating Scientist, Ft. Worth, TX
Elvis Graves, liaison to EPA, EPA, NC
Jeff Schmidt, Community Assistance Coordinator, BLM/NRCS, AZ
John Beyer, State Air Quality Specialist/NRI Coordinator, Fresno, CA
Roel Vining, Cooperating Scientist, Purdue University, IN
John Brenner, Cooperating Scientist, Fort Collins, CO
Beth Sauerhaft, National Ecological Climatologist, NRCS, Washington, DC

*Diagram Facilitator

REFERENCES

Carver, A.D. and Yahner, J.E. 1996. *Defining Prime Agricultural Land and Methods of Protection*. Purdue Cooperative Extension Service. AY-283. www.hery.purdue.edu/landuse/prime.htm.

Heimlich, Ralph E. and Anderson, William D., *Development at the Urban Fringe and Beyond, Impacts on Agriculture and Rural Land.* USDA, ERS, Agricultural Economic Report Number 803, June 2001.

Maintaining Farm and Forest Lands on Rapidly Growing Areas, USDA Advisory Committee on Farm and Forest Protection and Land Use, January 2001.

Sorensen, A. Ann, Greene, Richard P., and Russ, Karen, *Farming on the Edge.* American Farmland Trust, Center for Agriculture in the Environment, Northern Illinois University, DeKalb, Illinois, 1997.

APPENDICES

Appendix A –FRPP Legislation, as amended by the Farm Security and Rural Investment Act of 2002

Appendix B – FRPP Practice Photos, Descriptions and Network Diagrams

Appendix A

FRPP LEGISLATION, AS AMENDED BY THE FARM SECURITY AND RURAL INVESTMENT ACT OF 2002

Subchapter B—Farmland Protection Program

SEC. 1238H. DEFINITIONS.
In this subchapter:
(1) ELIGIBLE ENTITY.—The term 'eligible entity' means—
(A) any agency of any State or local government or an Indian tribe (including a farmland protection board or land resource council established under State law); or
(B) any organization that—
(i) is organized for, and at all times since the formation of the organization has been operated principally for, 1 or more of the conservation purposes specified in clause (i), (ii), (iii), or (iv) of section 170(h)(4)(A) of the Internal Revenue Code of 1986;
(ii) is an organization described in section 501(c)(3) of that Code that is exempt from taxation under section 501(a) of that Code;
(iii) is described in section 509(a)(2) of that Code; or
(iv) is described in section 509(a)(3), and is controlled by an organization described in section 509(a)(2), of that Code.
(2) ELIGIBLE LAND.—
(A) IN GENERAL.—The term 'eligible land' means land on a farm or ranch that—
(i)(I) has prime, unique, or other productive soil; or
(II) contains historical or archaeological resources; and
(ii) is subject to a pending offer for purchase from an eligible entity.
(B) INCLUSIONS.—The term 'eligible land' includes, on a farm or ranch—
(i) cropland;
(ii) rangeland;
(iii) grassland;
(iv) pasture land; and
(v) forest land that is an incidental part of an agricultural operation, as determined by the Secretary.
(3) INDIAN TRIBE.—The term 'Indian tribe' has the meaning given the term in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b).
(4) PROGRAM.—The term 'program' means the farmland protection program established under section 1238I(a).

SEC. 1238I. FARMLAND PROTECTION.
(a) IN GENERAL.—The Secretary, acting through the Natural Resources Conservation Service, shall establish and carry out a farmland protection program under which the Secretary shall purchase conservation easements or other interests in eligible land that is subject to a pending offer from an eligible entity for the purpose of protecting topsoil by limiting nonagricultural uses of the land.

(b) CONSERVATION PLAN.—Any highly erodible cropland for which a conservation easement or other interest is purchased under this subchapter shall be subject to the requirements of a conservation plan that requires, at the option of the Secretary, the conversion of the cropland to less intensive uses.
(c) COST SHARING.—
(1) FARMLAND PROTECTION.—
(A) SHARE PROVIDED UNDER THIS SUBSECTION.—The share of the cost of purchasing a conservation easement or other interest in eligible land described in subsection (a) provided under section 1241(d) shall not exceed 50 percent of the appraised fair market value of the conservation easement or other interest in eligible land.
(B) SHARE NOT PROVIDED UNDER THIS SUBSECTION.—As part of the share of the cost of purchasing a conservation easement or other interest in eligible land described in subsection (a) that is not provided under section 1241(d), an eligible entity may include a charitable donation by the private landowner from which the eligible land is to be purchased of not more than 25 percent of the fair market value of the conservation easement or other interest in eligible land.
(2) BIDDING DOWN.—If the Secretary determines that 2 or more applications for the purchase of a conservation easement or other interest in eligible land described in subsection (a) are comparable in achieving the purposes of this section, the Secretary shall not assign a higher priority to any 1 of those applications solely on the basis of lesser cost to the farmland protection program established under subsection (a).

APPENDIX B

FRPP PRACTICE EFFECTS: PRACTICE PHOTO, DESCRIPTION AND NETWORK DIAGRAMS